2 SEMI-ANNUAL MONITORING REPORT

In accordance with Title V Permit Standard Condition I.F and Condition 8366, Part 19, BAAQMD Regulation 8-34-411, and 40 CFR §60.757(f) in the NSPS, this Report is a Combined Title V Semi-Annual and Partial 8-34 Annual Report that is required to be submitted by TCRDF. The report contains monitoring data for the operation of the landfill gas collection and control system (GCCS). The operational records have been reviewed and summarized. The timeframe included in this report is November 1, 2014 to April 30, 2015. The following table lists the rules and regulations that are required to be included in this Combined Report.

Table 2-1 Semi-Annual Report Requirements

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.1 §60.757(f)(4)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1, Appendices B & C
8-34-501.2 §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2, Appendix B
8-34-501.3, 8-34-507, §60.757(f)(1)	Continuous temperature for all operating flares and any enclosed combustor subject to Section 8-34-507.	Section 2.3, Appendix D
8-34-501.4, 8-34-505, 8-34-510	Testing performed to satisfy any of the requirements of this Rule.	Sections 2.4 & 2.10 Appendices E & G
8-34-501.5	Monthly landfill gas flow rates and well concentration readings for facilities subject to 8-34-404.	Sections 2.5 & 2.11 Appendix J
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5)	For operations subject to Section 8-34-503 and 8-34-506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in parts per million by volume (ppm_v), date of discovery, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppmv.	Sections 2.6 & 2.7, Appendix F
8-34-501.7	Annual waste acceptance rate and current amount of waste in place.	Section 2.8,
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the GCCS Design Plan.	Section 2.9
8-34-501.9, 8-34-505, §60.757(f)(1)	For operations subject to Section 8-34-505, records of all monitoring dates and any excesses of the limits stated in Section 8-34-305 that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.10, Appendices G & H

Table 2-1 Semi-Annual Report Requirements (continued)

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.10, 8-34-508, §60.757(f)(1)	Continuous gas flow rate records for any site subject to Section 8-34-508.	Section 2.11, Appendices D & I
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records of key emission control system operating parameters.	Section 2.2.2
8-34-501.12	The records required above shall be made available and retained for a period of five years.	Section 1.2
§60.757(f)(2)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.	Section 2.2.1
§60.757(f)(6)	The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), (c)(4) of §60.755.	Section 2.12
§60.10 (d)(5)(i)	Startup, Shutdown, Malfunction Events	Section 4, Appendices B & C

2.1 COLLECTION SYSTEM OPERATION (BAAQMD 8-34-501.1 & §60.757(F)(4))

Appendix A contains a map dated November 14, 2014 of TCRDF's existing GCCS. No wells were added to or removed from the collection system during the reporting period.

Appendix B includes all collection system downtimes and the reason for the shutdowns. The information contained in Section 2.1.2 and Appendix C includes the individual well shutdown times and the reason for each shutdown.

2.1.1 COLLECTION SYSTEM DOWNTIME

During the period covered in this report, the landfill gas (LFG) collection system was not shut down for more than five (5) days on any one occasion. Pursuant to BAAQMD Regulation 8-34-113, Limited Exemption, Inspection and Maintenance, the total downtime for the reporting period of November 1, 2014 to April 30, 2015 was 6.63 hours. Total downtime for the 2014 calendar year was 70.03 hours. Total downtime for the partial 2015 calendar year (January 1, 2015 to April 30, 2015) was 6.63 hours. A Flare SSM Log that lists dates, times, and lengths of shutdowns for the reporting period is included in Appendix B.

2.1.2 WELL DISCONNECTION LOG

During the reporting period, zero (0) wellfield SSM events occurred. In addition, zero wells (out of a possible 3) remain disconnected at the end of the reporting period, pursuant to BAAQMD Regulation 8-32-116.2 (Limited Exemption, Well Raising).

A Wellfield SSM Log that lists dates, times, and lengths of disconnections for the reporting period is included in Appendix C.

2.2 EMISSION CONTROL DEVICE DOWNTIME (BAAQMD 8-34-501.2 & §60.757(F)(3))

The emission control system consists of the A-3 Enclosed Flare. No bypassing of the control system or emissions of raw LFG occurred. A Flare SSM Log for the A-3 Flare is included in Appendix B. The total downtime for the reporting period of November 1, 2014 to April 30, 2015 was 6.63 hours. Total downtime for the 2014 calendar year was 70.03 hours. Total downtime for the partial 2015 calendar year (January 1, 2015 to April 30, 2015) was 6.63 hours.

2.2.1 LFG BYPASS OPERATIONS *(§60.757(f)(2))*

Title 40 CFR §60.757(f)(2) is not applicable at the TCRDF because no bypass line is installed. LFG cannot be diverted from the control equipment.

2.2.2 KEY EMISSION CONTROL OPERATING PARAMETERS *(BAAQMD 8-34-501.11 & 8-34-509)*

BAAQMD Regulations 8-34-501.11 and 8-34-509 are not applicable to the A-3 Flare because the A-3 Flare is subject to continuous temperature monitoring as required by BAAQMD Regulation 8-34-507 and §60.757(f)(1).

2.3 TEMPERATURE MONITORING RESULTS (BAAQMD 8-34-501.3, 8-34-507, & §60.757(F)(1))

The combustion zone temperature of the A-3 Flare is monitored according to permit requirements. The temperature is displayed and recorded with a General Electric data panel and Yokogawa Digital Recorder. The temperature readings are downloaded and saved to a compact flash card. The data indicate that the A-3 Flare three-hour average combustion zone temperature did not drop below the 1,450 degree Fahrenheit (°F) limit, as required by the TCRDF Title V Permit Condition Number 8366, Part 6, during the reporting period when the A-3 Flare was in operation. The data also indicate that the A-3 Flare three-hour average combustion zone temperature did not drop below the 1,530°F limit established during the March 13, 2014 and March 5, 2015 source test pursuant to 40 CFR §60.758(c)(1)(i) when the A-3 Flare was in operation. Appendix D contains a Temperature and Flow Deviation Report for the A-3 Flare, covering the reporting period of November 1, 2014 to April 30, 2015.

2.4 MONTHLY COVER INTEGRITY MONITORING (BAAQMD 8-34-501.4)

The Monthly Cover Integrity Monitoring Reports are included in Appendix E. The cover integrity monitoring was performed on the following dates:

- November 19, 2014
- December 18 and 30, 2014
- January 8, 10, 14, 16, 19, and 22, 2015

- February 4 and 24, 2015
- March 25 and 26, 2015
- April 21 and 28, 2015

No breaches of cover integrity were found during the reporting period.

2.5 LESS THAN CONTINUOUS OPERATION (BAAQMD 8-34-501.5)

The TCRDF does not operate under BAAQMD Regulation 8-34-404 (Less Than Continuous Operation) and therefore is not required to submit monthly LFG flow rates.

2.6 SURFACE EMISSIONS MONITORING (BAAQMD 8-34-501.6, 8-34-506, & §60.757(F)(5))

Quarterly Surface Emissions Monitoring (SEM), pursuant to 8-34-506, occurred during the reporting period on the following dates:

- Fourth Quarter 2014 – November 10 and 11, 2014
- First Quarter 2015 – January 13 and 14, 2015

A Toxic Vapor Analyzer (TVA) 1000 and/or Photovac Micro Flame Ionization Detector (FID) were used during the SEM events to monitor the landfill surface according to the SEM Maps. Any areas suspected of having emission issues by visible observation were also monitored. Prior to all monitoring events, the FID used was zeroed and calibrated using zero air and 500 ppm_v methane calibration gas.

There were zero (0) locations with exceedances detected during either monitoring event. No corrective actions or follow-up monitoring was required. Copies of the SEM Reports are included in Appendix F.

2.7 COMPONENT LEAK TESTING (BAAQMD 8-34-501.6 & 8-34-503)

Quarterly Component Leak Testing, pursuant to 8-34-503, occurred during the reporting period on the following date:

- Fourth Quarter 2014 – November 11, 2014
- First Quarter 2015 – January 14, 2015

No exceedances were detected during either monitoring event. Quarterly LFG Component Leak Check logs are included with the SEM reports (Appendix F).

2.8 WASTE ACCEPTANCE RECORDS (BAAQMD 8-34-501.7)

The TCRDF is closed no degradable waste was accepted during the reporting period. The total waste in place is 12.77 million tons.

2.9 NON-DEGRADABLE WASTE ACCEPTANCE RECORDS (BAAQMD 8-34-501.8)

TCRDF does not have non-degradable waste areas that are excluded from the collection system. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

2.10 WELLHEAD MONITORING DATA (BAAQMD 8-34-501.4 & 8-34-505)

Wellhead monitoring was performed on a monthly basis pursuant to 8-34-505. The wellhead concentration readings for the reporting period are included in Appendix G. Each well was monitored in accordance with the following requirements:

- 8-34-305.1 - Each wellhead shall operate under a vacuum.
- 8-34-305.2 - The LFG temperature in each wellhead shall be less than 55 degrees Celsius (°C) (131°F).
- 8-34-305.4 - The oxygen (O_2) concentration in each wellhead shall be less than 5 percent by volume.

The wellhead monitoring was performed on the following dates:

- November 19, 2014
- December 18 and 30, 2014
- January 8, 9, 10, 14, 15, 16, 19, 22, and 23, 2015
- February 4 and 24, 2015
- March 25 and 26, 2015
- April 21 and 28, 2015

Wellhead Deviations *(BAAQMD 8-34-501.9 & §60.757(f)(1))*

Three (3) wellhead deviations from BAAQMD Regulation 8-34-305 requirements were identified during the reporting period. Wellfield deviations recorded during the reporting period are summarized in Table 2-2. The Wellfield Deviation Log is attached in Appendix H.

Table 2-2 Wellfield Deviation Summary

Well ID	Exceedance Date	Exceedance Value	Re-monitoring Date	Compliance Date and Reading	Days in Exceedance
TRIC0224	11/19/2014	5.8% O_2	11/19/2014	11/19/2014 0.3% O_2	<1
TRIC0227	11/19/2014	5.6% O_2	11/19/2014	11/19/2014 3.7% O_2	<1
TRIC0230	1/16/2015	6.1% O_2	1/16/2015	1/16/2015 0.1% O_2	<1

% – percent O_2 – oxygen "w.c. – inches water column

2.11 GAS FLOW MONITORING RESULTS (BAAQMD 8-34-501.10, 8-34-508, & §60.757(F)(1))

The Fluid Components, Inc. (FCI) flow meter was replaced with a Kurz flow meter on March 12, 2015. The LFG flow is displayed and digitally recorded with a General Electric data panel and Yokogawa Digital Recorder, which records flow every two minutes. The flow data readings are saved to a compact flash card. The flow meter is maintained and calibrated pursuant to the manufacturer's recommendations. The flare flow meter meets the requirements of BAAQMD Regulation 8-34-508 by recording at least every 15 minutes. The flow records for the flare are available for review at the TCRDF. As shown in Appendix D, no flare temperature or flow deviations occurred from November 1, 2014 to April 30, 2015.

Title V Permit Condition Number 8366, Part 11 limits daily heat input to 1,800 Million British thermal units (MMBTU) per day and annual heat input to 657,000 MMBTU. Table 2-3 below is a summary of the total LFG flow for the reporting period of November 1, 2014 to April 30, 2015. Monthly and daily flow rates are presented in Appendix I.

Table 2-3 LFG Input to A-3 Flare

Emission Control Device	Average Flow (scfm)	Average CH_4 (%)	Total LFG Volume (scf)	Total CH_4 Volume (scf)	Heat Input (MMBtu)	Max Daily Heat Input (MMBtu)
A-3 Flare	1,650	53.96	432,273,207	233,336,853	236,370	1,736

(1) The methane content was determined from the March 13, 2014 source test (11/1/2014 - 4/14/2015) and the March 5, 2015 source test (4/15/2015 – current).

2.12 COMPLIANCE WITH §60.757(F)(6)

"The date of installation and the location of each well or collection system expansion added pursuant to (a)(3), (b), (c)(4) of §60.755."

As of April 30, 2015, the GCCS system consisted of thirty-eight (38) vertical LFG collection wells. No wells were added to or removed from the collection system during the reporting period.

2.13 COMPLIANCE WITH TITLE V PERMIT CONDITION 8366, PART 12

Title V Condition Number 8366, Part 12 requires annual monitoring for hydrogen sulfide using a Draeger tube. The 2014 Annual sample concentration was 90 ppm_v (collected September 18, 2014). Monitoring for 2015 is required by September 18, 2015. Monitoring events are included in Appendix K.

2.14 COMPLIANCE WITH TITLE V PERMIT CONDITION 2593 FOR S-24

Daily records were maintained and totaled as required by Condition 2593 Part 4. Concrete accepted at S-24 did not exceed 150,000 tons during any consecutive 12-month period. Combined concrete and asphalt accepted and removed from the site did not exceed 2,500 tons in any day.

4 STARTUP, SHUTDOWN, MALFUNCTION (SSM) REPORT

SSM Report for the GCCS at the Tri-Cities Recycling and Disposal Facility

The NESHAP contained in 40 CFR Part 63, AAAA for MSW landfills to control hazardous air pollutants include the regulatory requirements for submittal of a semi-annual report (under 40 CFR 63.10(d)(5) of the general provisions) if an SSM event occurred during the reporting period. The reports required by 40 CFR §63.1980(a) of the NESHAP and 40 CFR §60.757(f) of the NSPS summarize the GCCS exceedances. These two semi-annual reports contain similar information and have been combined as allowed by 40 CFR §63.10(d)(5)(i) of the General Provisions.

NESHAP 40 CFR Part 63, AAAA became effective on January 16, 2004. Those SSM events that occurred during the NSPS semi-annual reporting period (November 1, 2014 to April 30, 2015) are reported in this section. The following information is included as required:

- During the reporting period, 7 flare SSM events occurred. The cause, time and duration of each event are presented in the Flare SSM Log, which is contained in Appendix B.
- During the reporting period, 0 wellfield SSM events occurred to allow for active filling, repairs, and well raising. The time and duration of each event are presented in the Wellfield SSM Log, which is contained in Appendix C.
- During the reporting period, 0 recorder SSM events occurred.
- In all, 7 events were consistent with the standard operating procedures contained in the SSM Plan.
- No exceedances of any applicable emission limitation in the landfill's NESHAP (63.10(d)(5)(i)) occurred.
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).